

Putnam County Bridge #111
(Dills Ford Bridge)
On County Road 50 North
over Little Walnut Creek
Greencastle Vicinity
Putnam County
Indiana

HAER NO. IN-100

HAER
IND
67-GREC.V,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Great Lakes System Support Office
1709 Jackson Street
Omaha Nebraska 68102

HISTORIC AMERICAN ENGINEERING RECORD

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Location: On County Road 50 North
over Little Walnut Creek
Greencastle Vicinity
Putnam County
Indiana

UTM: 16.504900. 4390780
QUAD: Clinton Falls, Indiana

Date of
Construction: 1909

Engineer: Daniel B. Luten, the Indiana Bridge Co.; A. A.
Lane (modifications). Contractor: S. H. Gibson.

Present
Owner: Putnam County, Indiana

Present Use: Vehicular/Pedestrian Bridge, presently closed to
vehicular traffic.

Significance: The bridge is significant as an early Indiana
example of a Daniel Luten designed filled
spandrel arch concrete bridge. It qualifies for
the National Register of Historic Places on the
local level.

Project
Information: The bridge was recorded in 1998 by Camille B.
Fife and Thomas W. Salmon II of The Westerly
Group, Inc., 556 W. 1175 N. Rd., Farmersburg IN
47850.

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Description: Putnam County Bridge #111, (Dills Ford Bridge), is a filled-spandrel, reinforced concrete bridge of two spans, with an overall length of 170 feet, each span being approximately 81 feet long. The arches are typical of Luten-designed bridges, being low elliptical, and flat. They are intimate with the simple abutments on each bank, which are internally unified with the pier and arches through steel bar reinforcing.

Filled-spandrel arches typically have walls which rise above the ring at each edge and contain an earth-fill over which the roadway is constructed, in this case with an asphalt surface. The spandrels are simple, with no decorative elements. The central pier has a bull-nosed foundation and base, above which, on the upstream side, is a cast shearwater. The pier is narrow and the downstream side protrudes two feet less with a narrow pier, and the rounded base only.

The roadway is single lane, with an asphalt surface, laid over the dirt fill between the spandrel walls. Originally, the concrete rails were pierced by pointed arched openings, forming a simple balustrade. The railing has since disappeared from the bridge, leaving only portions of the solid concrete parapet wall remaining at the pier and at each abutment.

At present, the spandrels are separating from the central pier and from the abutments. Repairs have been affected on these walls, by piercing them and inserting steel wires through, perpendicular to the roadbed. These hold in place, on the outside of the spandrel walls, vertical I-beams, a few feet in length, which are presently holding the walls together. The deterioration along the entrados of the spandrel is such that one can see the portions of the steel bar reinforcing which was employed by the designer.

The bridge spans the confluence of two creeks, although it is known for its association with Little Walnut Creek, the larger of the two

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drainages. The other, Leatherwood Creek, ambles toward the bridge from the northwest and is considerably smaller than its neighbor to the east. Little Walnut Creek continues on in a southerly direction in Madison Township, joining the Big Walnut before and continuing toward the county line.

The roadway on which the bridge is constructed, County Road 50 North, is a secondary rural artery, gravel west of the bridge, and asphalt on the bridge roadbed and to the east. This crossing probably dates to at least the mid-nineteenth century, as it is shown on a map of 1864. That there was a ford present, is evidenced by the common name by which it was known at the time, Dills Ford. Deteriorated portions of a wood structure are present just north of the bridge, in the bed of Leatherwood Creek. This may represent some remnant of a former wood bridge or corduroy road or a more contemporary rustic crossing, but no evidence has been found of its provenance, and none was unearthed during the archaeological investigation (conducted by others). If such it is evidence of a Ford, the present steep grade at this location indicates that there has been a slight change in either the road configuration and/or roadbed grading.

History: Dills Ford Bridge is set in a rural area. Since the early part of the nineteenth century the countryside surrounding it has been devoted to agriculture and rural residences. The road upon which it is constructed can be seen to exist as early as 1864, but probably dates from much before that time. The earliest trail in the township ran approximately parallel to and south of this road (now called County Road 50 North). This early trail was called the Greencastle-Brunerstown Road, (or sometimes the Greencastle

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and Clinton Road), at least by 1837.¹ In an 1879 map, portions of this artery were shown as gravel, probably the first road in Madison Township to be so improved. West of the bridge, the present road connects to the earlier trail, near the village of Brunerstown.

The artery on which the bridge was constructed served as a secondary lane, connecting farms in the northern section of the township to this main route, either westward to Brunerstown or, due south, via another intersecting road. Portions of the present road are still gravel. Because of its early presence as a rural country crossing, it is possible that there may have been a metal or wooden span over Dills Ford prior to the present 1909 concrete bridge. However, no document or physical evidence has been revealed to date which would confirm either structure, except the remnant in Leatherwood Creek which is enigmatic. It is possible, since it was locally known as Dills Ford at the time of the bridge's construction, that only a ford was present.

Putnam County had been formed in the early 1820s, just after the area had been surveyed. The land in Madison Township, located in the west central portion of the county, is comprised of rolling hills and rich bottom lands. At the time the county was formed, most of the land was densely forested in valuable timber. The Little Walnut Creek is one of many drainages, running in a general northeast to southwest direction throughout the county. During the nineteenth century, (and to some extent, even today) the woodlands in the county presented a picturesque view to the visitor, as expressed by Professor John Collett, in a report of 1880:

From an elevation high enough to include the whole county from east to west the autumnal foliage would present ... lines of brilliant colors strongly marked and of magic

¹Putnam County Sesquicentennial Committee, *A Journey Through Putnam County History*, Greencastle: 1966, p. 260.

splendor. ... In the central ... division both the parts merged and mellowed, their contrasting colors uniting to crown every hill and deck every valley with a foliage that has never, can never be painted or described; in which the scarlet, crimson and orange of the sugar and dogwood contrast in quivering life with gold, pink, green and russet of the elm, beech, oak, hickory, polar and minor shrubs." ²

The immediate locale of the bridge is today heavily populated with trees and forbes, a reminder of its once picturesque setting.

Dills Ford, the name by which the crossing was known at the turn of the century when the bridge was constructed, refers to the owner of the adjacent land during that era. The Dills family was one of the leading families of Madison Township, during this time. William Dills came to Indiana from Ohio as a young toddler, the son of John and Agnes Dills. The family settled first in the eastern part of the township, seven miles west of Greencastle, the county seat, on the Greencastle-Brunerstown road (also known as the state road).

William Dills father died shortly after their arrival in 1845, but the family was kept together. Later, his two older brothers left the state to seek their fortunes in Iowa and Ohio. William is shown on an 1879 map as the owner of 80 acres on the state road and another 320 acre plot in the northern part of the township. His mother had died when he was fourteen, but he evidently worked hard, saved his funds and eventually became a landed farmer of considerable success. By 1887, he was credited as the owner

²Quoted in Jesse W. Weik, *Weik's History of Putnam Co., IN*, Indianapolis: B. F. Bowed & Co., 1910, p. 32.

of 155 acres in Madison Township and over 400 acres in other places.³

Mr. Dills bought and sold several land parcels in Madison Township, including a farm on the Little Walnut and another, of 200 acres in section 11, which was probably the land adjacent to the present bridge. He purchased this land sometime between 1879 and 1897, and continued to own it during and after the bridge was constructed. At the same time, he also owned at least one other large farm (of 360 acres), which he successfully managed. By the first decade of the twentieth century, William Dills was considered "one of Putnam's honored and substantial citizens."⁴

A brief note on the reverse side of a contemporary blueprint of the bridge mentions "No. 10 School Bridge", as well as "Dills Ford". This undoubtedly referred to a new, two-story building "on Little Walnut" Creek constructed c. 1897-98. For a time it served as a high school. William Dills had deeded some of his land in the southwest corner of the northwest quarter of section 11 for school purposes in 1897.⁵ Thus it is likely that this school was present near the bridge when it was constructed and that the crossing served students who walked or traveled via horse-drawn wagon from farms to the west of the school.

In the late summer of 1909, the Putnam County Commissioners published notices in the local newspaper about the upcoming lettings of local bridge contracts. Plans for the bridge over Little Walnut Creek (Dills Ford), as well as two others, steel bridges, over Doe and Mill Creeks,

³ Lewis Publishing Co., *Biographical and Historical Record of Putnam Co., IN*, Lewis Publishing Co:1887, p.279 (facsimile.)

⁴ Weik, *History*, p. 560.

⁵ Putnam County Sesquicentennial Committee, *A Journey*, p. 266

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were duly made available to area contractors. No doubt, the single remaining blueprint, now stored in the county surveyor's office is a remnant of the package prepared for this letting (see Index to Photographs).

About a dozen contractors responded to the offering. Some bid only on the two steel bridges, some further divided the sub-structure and superstructures, others chose to bid on all three. The contractors came from near and far; the Attica and Vincennes Bridge Companies both participated, as well as local builders like S. H. Gibson of Putnam County. The latter presented the "best bid" according to the County Commissioners record (although not the lowest) and was duly awarded the contract for the project.⁶

The plans for the bridge had been developed earlier, according to the Commissioners record as appropriations had been made in September of the previous year. The plans for the bridge were presented to the commissioners on August 2, 1909, by the county surveyor, A. A. Lane whom the record indicates "prepared" the documents (from plans provided by the Indiana Bridge Company, as was typically the case).⁷ Alec A. Lane had been Putnam County Surveyor since 1903. He was an 1894 graduate of DePauw, and by 1910 could boast of a general practice of land surveying in which he covered the state, as well as numerous county bridge and highway designs. According to a contemporary history he was also in great demand all over the state to settle land disputes.⁸

⁶ Putnam County Commissioners Court, Special August Term, 1909, Greencastle, Indiana, August 25, 1909. (County Commissioners Record, Vol. 20, pp. 411-412.

⁷ County Commissioners Record, Vol. 20, p. 409.

⁸ Weik, *History*, pp. 624-625.

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Putnam County Bridge No. 111 was designed by Daniel Luten, through his design firm, the Indiana Bridge Company.⁹ Daniel B. Luten was a professional engineer with an entrepreneurial bent who pioneered simplicity and economy in the design of reinforced concrete bridges in Indiana and throughout the United States. At one time he may have been responsible for as many as twelve thousand structures.

A native of Michigan, Luten became identified with the Hoosier state a year after his graduation from the University of Michigan, when he relocated to become an Instructor of Architectural and Sanitary Engineering at Purdue University. Luten espoused bridges where concrete and reinforcing steel worked in harmony and where simplicity of design allowed ready interpretation by the "practical men" who would build them.¹⁰

The arch which Luten favored for his filled-spandrel arches (the Dills Ford Bridge is a good example) was a semi-elliptical one, which was touted, in a 1902 issue of *Engineering News Record*, as "the flattest concrete-steel arch in the world". Luten had left the academic world at the turn of the century to pursue his ideas as a practical engineer in the private sector. With several patents in hand, he formed several companies in Indiana and California before his National Bridge Company became nationally successful in the area of Bridge design. A man who believed in experience, he even contracted for the construction of bridges during his early years. The bridge in Putnam County was built during the peak of his success. In 1915, he held 39 U.S. patents for concrete bridges, published over 65 articles and been responsible for the

⁹ James Cooper, *Artistry and Ingenuity in artificial Stone: Indiana's Concrete Bridges, 1900-1942.*, Greencastle, IN: Cooper, 1997, p.248.

¹⁰ Ibid., pp. 37-38, 44-45.

design of about 6,000 bridges in the U.S., Mexico and Canada.¹¹

The bridge which Daniel Luten designed for the crossing over Little Walnut Creek in Madison Township once embodied his principles of simplicity, efficiency and sleekness of design. In this, it represented its designer's conviction that reinforced concrete bridges should not attempt to recall their stone counterparts, nor should ornamentation be a major concern. In this, he was in opposition to the "City Beautiful" architects like George Kessler who employed the use of stone, and other decorative work to enhance a classic revival motif in their structures. In its original condition, with its simple balustrade, narrow, graceful piers and lean arches, it served as a chaste accompaniment to its picturesque surroundings. Today, much of this quality has been lost, with the demolition of the balustrade, the deterioration of its piers and the ever-widening cracks along its spandrel walls.

¹¹ Ibid., pp. 45, 50-51, 62-65.

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Other Sources: Records & Blueprint in the collection of the Putnam County Surveyor's office.

County Commissioners Records, Putnam County Courthouse, Greencastle, Indiana.

LOCATION MAP

